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TECHNOLOGY CENTER R3700

RESPONSE TO OFFICE ACTION MAILED 03-28-02

Objection to Duplicate Claims:

The Applicant wishes to discuss with the Examiner, the possibility of changing claim 1 or 8 to a device claim from a method claim. This change would result in one independent claim and two independent method claims in the application.

Rejection based on Prior Art:

1. Sholer et al (U.S. Pat. #5,234,343) teaches a "moldable dental composition" of high fusing and low fusing metal composition held together by "a wax binder" (claim 1 in Sholer et al). The present application teaches a completely different method comprising "a formable metal made of sintered metal fibers in the shape of a thin felt sheet" or comprising "a metal screen"
2. The moldable dental composition in Sholer et al is comprised of metal particles that require a wax binder to hold the metal particles together. The formable metal in the present application is entirely different because it requires no binder and comprises no wax. The formable metal in the present Application is in the form of a felt sheet or metal screen, and does not comprise any metal particles or any wax binder.
3. Because the composition of the "moldable dental composition" in Sholer et al is different from the composition of the "formable metal" in the present Application, the steps in fabricating the metal structure are different. For example, after the initial heat-treating, Sholer et al requires a second filler step to fill in the porous structure to form a dense solid structure (col. 5, lns. 25-33). The present Application does not require a second heat treating since the initial heat treatment after the application of the joining metal is sufficient "to form a solid and rigid crown structure" (page 7, lines 2-5).
4. More importantly, Sholer et al does not work. The metal particles in the "moldable dental composition" will sag, deform and separate when the wax filler is melted. The larger high fusing metal particles will further sag and deform when the low fusing smaller metal particles are melted.

Additionally, when the filler material is added, it will not form uniformly. To make this method work, a presently commercially available version of Sholer et al has adapted additional steps of forming a shell mold around the wax coping before it is melted. The shell mold has a funnel opening at the top to allow the "filler material" to melt into the mold and form uniformly around the die to form "a dense solid coping".

5. The present application uses a high fusing "formable metal made of sintered metal fibers in the shape of a thin felt sheet" or a high fusing "metal screen" that is securely bound and will not come apart or deform when the joining metal is melted. Additionally, a second filler material is not needed in the present application.

6. Sholer teaches the fabrication of a coping for a crown. The present application, not only teaches the fabrication of a coping for a crown, but also teaches the fabrication of an inlay/onlay, a full metal crown, a bridge and a partial denture framework.



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